

Remarks/Arguments

Claim Summary

By this Amendment, claims 1, 5, 6, 13 and 14 have been revised, and claim 7 has been cancelled.

Claims 1-3, 5-6, 9-11 and 12-17 are now pending in the application.

35 U.S.C. ¶102 and ¶103

Claims 1-3, 5-7, 9-11 and 12-17 were variously rejected under 35 U.S.C. ¶103 as being unpatentable over Le et al. (US 2003/0196890), taken alone or in combination with Taguwa (US 6800543) and Matsumoto et al. (US 6451690). Applicants respectfully traverse these rejections with respect to the now-pending claims.

By this Amendment, each of independent claims 1, 5, 6, 13 and 14 has been revised to recited negative biasing of the wafer platen during sputtering. Support this limitation can be found at least at page 2, lines 15-16, of the present specification.

The Examiner acknowledges that Le et al. does not teach negative biasing of the wafer platen. Nonetheless, the Examiner states:

“... the Examiner takes official notice that using a negative DC bias during sputtering is well known . . . It would have been [obvious] to use a negative DC bias power to enhance the quality of the film to be formed, in this case the tungsten film.”

Respectfully, Applicants note that negative biasing of the substrate would be contrary to the teachings of Le et al. as a whole.

Le et al. nowhere describes negative biasing of the platen (although other related aspects are described in great detail), and it is clear that the platen

is in fact floating. This is not surprising since the primary objective of Le et al. is to reduce the number of particles hitting the substrate. See, for example, paras. [0071] and [0076] of Le et al. Negative biasing of the platen would be contrary to this objective – i.e., particles which enter the plasma would become ionized and drawn down to the substrate.

When the teachings of Le et al. are properly considered as a whole, Applicants respectfully contend that Le et al. teaches away from negative biasing of the wafer platen. For at least¹ this reason, Applicants respectfully contend that the now-pending claims define over the teachings of Le et al., taken alone or in combination with Taguwa and Matsumoto et al.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims 1-3, 5-6, 9-11 and 12-17 now pending in the application are requested.

Respectfully submitted,

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¹ Applicants do not acquiesce to the reasoning underlying the remaining aspects of the Examiner's rejections.